

METHOD FOR REMOVING WATER AND OTHER
VOLATILE COMPONENTS FROM POLYMER
POWDERS

ABSTRACT OF THE DISCLOSURE

[0075] A method for removing volatile components from wet, polymer powders using a vacuum vented extruder is described. Polymer powders containing substantial amounts of water, 1-20 % by weight, are rapidly converted to polymer compositions containing less than about 0.5% by weight water at high throughput rates while avoiding complications resulting from excessive steam backflow through the extruder feed throat. The method provides a screw design comprising a powder seal section upstream of kneading and melting sections of the extruder. Steam generated as the polymer is heated flows downstream to one or more vacuum vents for removal. The partially devolatilized polymer melt is then subjected to additional melt kneading and vacuum venting. The method converts wet polycarbonate powder containing residual methylene chloride to essentially dry polycarbonate powder containing less than about 1 ppm methylene chloride.